



Environmentally Preferred Purchasing Guidelines

January 2012

INTRODUCTION: PURCHASING ENVIRONMENTALLY PREFERABLE PRODUCTS AND SERVICES

Purpose

The City of Shoreline recognizes that we are a large consumer of goods and services. Every one of our purchases has an environmental impact resulting from the combined effect of a product's manufacture, use, and disposition. As a result, every day purchasing decisions of our employees and contractors can positively or negatively affect the environment.

The goal of this policy is to reduce the adverse environmental impact of our purchasing decisions by buying goods and services from manufacturers and vendors and conducting business with contractors and consultants who share our commitment to the environment. By including environmental considerations in our purchasing and contracting decisions, along with our traditional concerns with price, performance, and availability, we will remain fiscally responsible while promoting practices that improve public health and safety, reduce pollution and climate change, conserve natural resources, and support businesses that share our goal to reduce the adverse environmental impact of their products and services.

This Environmentally Preferred Purchasing (EPP) policy is intended to:

- Reduce the spectrum of environmental impacts from City use of products, including reduction of: greenhouse gas emissions, landfill waste, health and safety risks, and resource consumption;
- Incorporate environmental sustainability standards into procurement decisions;
- Empower department purchasing staff to be innovative and demonstrate leadership by incorporating progressive and best-practice sustainability specifications, strategies, and practices in procurement decisions;
- Encourage vendors to promote products and services that they offer which are best suited to the City sustainability policies;
- Encourage and promote both local and national companies to bring forward emerging and progressive sustainable products and services by being a consumer of such products and companies;
- Communicate the City's commitment to sustainable procurement, by modeling the best product and service choices to citizens, other public agencies and private companies; and
- Support consultants, contractors, and other businesses providing services to the City to abide by standards enumerated in the EPP policy.

It is not the intent of this policy to require a department, buyer, or contractor to take any action which conflicts with local, state, or federal requirements or to procure

products that do not perform adequately for their intended use, exclude sufficient competition, are not yet proven technologies, or are not available at a fair price in a reasonable period of time.

Defining Environmentally Preferable

Buying the most environmentally preferable alternative means the City of Shoreline will seek products and services that have a reduced negative impact on human health and the environment when compared with competing products and services serving the same purpose to the degree practicable. This comparison should consider all phases of the product's life-cycle, including raw materials acquisition, production, manufacturing, packaging, distribution, operation, maintenance and disposal, including potential for reuse or ability to be recycled.

In practice, this means seeking products that have reduced environmental impact because of the way they are made, used, transported, stored, packaged, and the manner in which they are disposed. It means looking for products that do not harm human health, are less polluting and that minimize waste, maximize use of bio-based or recycled materials, conserve energy and water, and reduce the consumption or disposal of hazardous materials.

Balancing Environmental Considerations with Performance, Availability, and Financial Cost

When comparing cost, the City of Shoreline will not focus exclusively on the initial price. Instead, the life-cycle costs and environmental impacts of the item should be considered, which may include maintenance, operating, insurance, disposal, replacement and potential liability costs. This simple analysis only includes cost factors associated with a product's useful life with the City, but a more thorough analysis may also include the range of environmental damages assignable to products and services from raw material production and extraction, manufacturing, distribution, and use and disposal – including transportation. Because this detailed analysis involves a great deal of information that may or may not be available to a project manager, this document provides links to organizations that have already compiled the data and rated products based on these factors. These are included in Chapter 6, which also provides a more thorough discussion of Life Cycle Analysis.

Environmental factors that should be considered in selecting products include life-cycle analysis of:

- Pollutant releases;
- Waste generation;
- Recycled content;
- Energy consumption;
- Depletion of natural resources;
- Potential impact on human health and the environment; and
- Opportunity to reuse or repurpose.

The City of Shoreline recognizes that competition exists not only in prices, but also in the technical competence of suppliers, in their ability to make timely deliveries, and in the quality and performance, including environmental performance, of their products and services. Balancing these sometimes competing factors means that initial cost is never the only consideration. It also means we will sometimes pay more for higher performing goods and services, including those with superior environmental performance, when practical.

What This Policy Includes

Environmentally preferred purchasing policies have been developed for the following priority categories:

- Chapter 1: Sustainable Contractor, Vendor and Consultant Services Practices
- Chapter 2: Green Fleet Program
- Chapter 3: Office Supplies
- Chapter 4: Pesticide Purchasing Guidelines
- Chapter 5: Cleaning Products and Services
- Chapter 6: Life-Cycle Analysis (LCA)

Other areas of purchasing consideration include: office equipment, furniture, building renovation and new construction, landscaping products and services, maintenance materials such as paint, and renewable electricity. No specific environmentally preferred purchasing policies have been developed for these categories at this time; however environmental impacts should always be a consideration when making purchasing decisions.

Administration of EPP

Purchasing is a City-wide function facilitated by the Purchasing Officer in the Administrative Services Department. Due to the interdepartmental nature of the EPP policy, the Green Team, or future designated Environmental Policy point person/team, together with the Purchasing Officer, are responsible for facilitating implementation, training and maintenance of the EPP policy. Some tasks related to administration of this policy may also require coordination with Human Resources staff or individual departments.

Ongoing administrative tasks include:

- Providing assistance to staff in charge of purchasing in reviewing specifications to ensure that they are amended to include environmental considerations, where appropriate;
- Tracking the development of environmental standards and specifications that Shoreline can integrate into its purchasing specifications, including those developed by independent, well-respected organizations, such as Environmental Choice, Green Seal, or Energy Star;
- Identifying additional environmentally preferable purchasing opportunities;

- Engaging in education and outreach to promote understanding of Shoreline's environmental purchasing principles for all of the organization's departments, contractors and vendors;
- Training the purchasing and contracting staff and all senior managers to familiarize them with their responsibilities under this environmental purchasing policy; and
- Training the entire Shoreline staff to ensure everyone is aware of our goal of purchasing more environmentally preferable goods and services from businesses sharing our environmental commitment.

Within five to ten years following adoption of specific environmentally preferred purchasing policies, the Purchasing Officer, or other appropriate staff person will solicit an employee panel tasked to complete a comprehensive review of the guidelines, goals, and action plans.

For more information on the original development of this policy please refer to Appendix A: Origins of This Policy.

CHAPTER 1: SUSTAINABLE CONTRACTOR, VENDOR, AND CONSULTANT SERVICES PRACTICES

Purpose: Pursuant to the goals set forth in the *Environmentally Preferred Purchasing (EPP)* policy and the guiding principles for *Integrating Sustainability into the City's Decision-Making Process*, this policy endeavors to:

- Develop and maintain environmental standards and specifications the City can integrate into its contracts with contractors, vendors, and consultants;
- Support contractors, vendors, and consultants that exemplify sustainable practices and reduce the adverse environmental impact of their services provided to the City; and
- Establish a program to recognize the efforts of contractors, vendors, and consultants that are the most successful at implementing the goals of this policy and the EPP.

Policy: The City will endeavor to incorporate environmental best management practices and life-cycle analysis into all phases of the contract process so that any work performed on its behalf by contractors, consultants, and vendors reflects the commitment to sustainability.

Objectives: The City actions that have some of the largest impacts on the environment are those pertaining to how the City plans, constructs, and operates its infrastructure, but every contracted service involves choices about materials and processes that could be environmentally preferable. Therefore, the City shall build sustainability into the contract process, from guidelines for RFP/RFQ submittal and selection to life-cycle analysis of products.

Strategies & Practices:

Examples of strategies and practices to reduce environmental impacts include:

- General
 - Electronic document submittals whenever possible. Hard copies should be printed double-sided, on recycled-content paper.
 - Include sustainability as part of the RFP/RFQ project scope and selection criteria when feasible. Revise material quote form to include preference for sustainable manufacturing, packaging, and delivery methods.
 - Include consideration of sustainable options in the Capital Improvement Project and Budget development forms.
 - Project Manager is responsible for knowledge of Best Management Practices pertaining to particular project.
 - Provide Life-Cycle Analysis to justify purchasing recommendations. Request such analysis to be done by contractors, consultants and vendors when appropriate.
- Contractor (Construction)

- Consider employing commonly accepted methods of construction that require less waste and fewer materials, while meeting the standards and specifications they are required to meet (e.g. advanced framing).
- Reuse, repurpose, and recycle materials as the preferred means of waste disposal.
- Utilize recycled, repurposed, or reused products as the source material whenever practical.
- Consultant
 - Part of submittal requirements could be for the consultant to articulate how they will utilize green practices in the delivery of services. Consideration could be given for innovative sustainability practices in the selection criteria.
- Vendor
 - Vendors are encouraged to demonstrate environmental consideration by outlining alternative product availability and use, minimal packaging material practices, and incorporation of consolidated delivery methods and scheduling, to name a few. These considerations could be assigned weight factors for use in the RFP/RFQ evaluation process.

The City may want to consider convening a Contractor, Vendor, and Consultant Services User Group or alternate mode of consulting with users of contracted services when evaluating, recommending, and implementing policies and procedures for all phases of the contract process.

CHAPTER 2: GREEN FLEET PROGRAM

Purpose: The purpose of this policy is to establish and maintain a Green Fleet Program for the City of Shoreline to reduce the City's dependence on petroleum-based fuels, reduce emissions, and promote sustainable energy technologies.

Policy: The City of Shoreline shall make every effort to purchase and use low emission vehicles and equipment when feasible.

Objectives: The primary objectives of this policy are to:

- Eliminate and surplus under used or inefficient vehicles that are not cost effective for the City;
- Promote sharing of vehicles across department lines for the purpose of attending meetings and conducting City business;
- Purchase fleet vehicles that provide the best available net reduction in vehicle fleet emissions, including but not limited to, alternative-fueled, hybrid and electric vehicles, or EPA rated 45+ mpg, while continuing to provide and meet service levels;
- Purchase environmentally preferred or certified parts, materials and equipment for vehicle maintenance provided they are cost effective and meet local, state and federal safety requirements;
- Retrofit current vehicles where feasible to operate on alternative fuel or alternative fuel blends, or to reduce the need for idling;
- Purchase the proper vehicles to perform the required tasks; and
- Perform regular preventative maintenance on vehicles to maintain fuel efficiency and the extended life of City vehicles.
- Acquire used vehicles from other agencies (i.e. Metro) that still have useful life.

Strategies and Practices:

The current Vehicle User Group should incorporate sustainable purchases and practices into fleets acquisition, operations, and maintenance. The Vehicle User Group consists of the Fleet Management Supervisor, the Street Supervisor, the Parks Superintendent, the Permit Services Manager, Operations Manager, Purchasing Officer, and the Finance Manager.

The Vehicle User Group will be responsible for evaluating, recommending, and implementing policies and procedures for the purchase, assignment, and surplus of vehicles and equipment designed to meet the objectives of the Green Fleet Program.

Explore the possibility of certifying the City's fleet as green through the Evergreen Fleets Program: <http://www.evergreenfleets.org/Home/tabid/38/Default.aspx>.

Facilitate use of mass transit for City business through provision of ORCA passes that can be checked out by staff who choose not to purchase their own card utilizing the City discount.

Investigate possibility of Zip Car or other shared vehicle at City Hall, which could be used by staff for personal errands. This may encourage more employees to commute by alternative means because they would still have access to a vehicle during the day.

Fleet Services will complete an inventory and fuel efficiency assessment of all vehicles and equipment annually.

Determining the right vehicle for the right task is a crucial initial step in the acquisition process. Once established, the following considerations should be prioritized in purchasing decisions:

- Vehicles with alternate energy options;
- Recommended vehicle maintenance schedule and associated products;
- Vehicle components – non-toxic materials, recycled materials (seats, carpets, plastics, etc);
- Reduced emissions;
- Highest miles per gallon;
- Preference for local vendor;
- Consider shared procurement with other jurisdictions when feasible to obtain better purchase price on environmentally preferred vehicles; and
- Cost.

One source for comparing vehicle ratings on emissions and fuel economy is the U.S. EPA website at <http://www.epa.gov/greenvehicles/Index.do>.

CHAPTER 3: OFFICE SUPPLIES

Purpose: Utilize the City's purchasing power to reduce landfill waste, resource consumption, health and safety risks, and greenhouse gas emissions associated with office supplies, and increase the market for sustainable alternatives to standard options.

Policy: Administrative Assistants and all those responsible for purchasing shall choose the "greener" alternative for office supplies as long as they are cost-competitive or have a life-cycle benefit.

Objective: Provide City staff with the knowledge and tools needed to make effective, efficient, and sustainable purchasing decisions for office supplies.

Strategies and Practices:

Green Product Initiatives undertaken by office supply retailers can be useful tools for making environmentally preferred purchasing decisions. The three largest office supply retailers, Staples, Office Max, and Office Depot each carry thousands of reasonably priced products with recycled content and other environmental attributes and have developed internal green labels and ordering tools that assist in quickly identifying products with reduced environmental impacts. The City should understand the basis for these tools and labels and check for consistency with this purchasing policy before directing staff to use them when making purchasing decisions. Ideally, products or product criteria can be identified in the vendor selection and contracting process and arrangements made to give ordering preference to the greener product.

When ordering office supplies, consider the following:

- 1) Is the current item you are buying a non-green item?
- 2) If your answer is yes, is there a greener product available (recycled or environmentally friendly)?
- 3) If a greener product is available, is it similar in function to non-green product, and does it cost less or is it within budget to purchase?

Take the time to learn the office supplier's system for indicating environmentally preferable products and know what they mean. The most common symbol with office supplies is the recycle symbol, which can either indicate that it has recycled content or is recyclable. Another is the suppliers' notation next to an item indicating it is green, such as 'Eco Easy', or a description with terms like 'post consumer waste' or 'soy-based ink.'

Below is a partial list of green items that the City currently purchases on a regular basis and preferable product descriptions:

- Calendars and desk accessories (recycled content);

- File and hanging folders (recycled content);
- Highlighters and markers (low or no odor ink, refillable cartridge);
- Notebooks/pads/Post-it notes (recycled content);
- Paper and binder clips (recycled content);
- Pencils and pens (recycled content and refillable);
- Scissors (recycled content); and
- Sheet protectors (recycled content).

City staff should proactively put “Reduce, Reuse, Recycle” into practice. Through employee orientation and training as well as with support from the staff responsible for office supply ordering we should make it standard practice to do things such as:

- Stocking refillable pens and the refills, instead of tossing pens when they are empty. This takes initiative to ensure the pens and refills are of a consistent type so knowing what to order and having it available are standard procedure, as well as reminding others of this practice when they request new pens be ordered.
- Do not order more supplies until checking to see if there are surplus available from other departments. This could be accomplished through regular communication between Administrative Assistants and/or by establishing an area for extra office supplies where all departments could bring excess items and others could check stock before ordering new materials.
- Before tossing, check to see if it is recyclable. If unsure, Environmental Services staff can assist or ask the City’s waste management service provider.

Remember, the goal of this office supply policy is not to be specific and restrictive, but to allow the departments the flexibility to make informed choices following consistent City-wide guidelines that can be less wasteful of both materials and dollars.

Contracts: One of the most effective ways to ensure purchases are the most sustainable and cost-competitive is to establish guidelines in the vending contract.

Contracts should include provisions to favor products that:

- Require recycled, more sustainable, and/or less packaging;
- Are made from recycled content or may be reused or recycled;
- Contain less toxic chemicals;
- Are produced locally; and
- Are durable as opposed to disposable.

If the City is unable to incorporate selection of environmentally-preferable products into the vendor contract, it should consider developing and maintaining a list of alternative office supply sources that carry reasonably priced sustainable office supplies. These may be small and/or local businesses that do not provide a full range of office supplies, but have excellent products that are not carried by a

contracted office supply vendor. Alternately, as companies are found with office supply products the City is interested in, staff could contact them and recommend that they apply for inclusion on the [Shared Procurement Portal](#). One example of green office supply vendor is ReBinder – a Seattle-based green office supplier (<http://www.rebinder.com/>).

CHAPTER 4: PESTICIDE PURCHASING GUIDELINES

Purpose: It is the intent of the City of Shoreline to reduce use of pesticides. When they are necessary, the City shall require purchase of pesticide products that minimize environmental and health impacts, toxics, pollution, and hazards to worker and community safety to the greatest extent practicable.

Policy: When maintaining buildings and landscapes, the City of Shoreline shall manage pest problems through Integrated Pest Management (IPM), and encourage residents to use similar practices. IPM emphasizes prevention and the use of physical, mechanical and biological controls. Chemical pesticide products should be used only after safer approaches or products have been determined to be ineffective. After coming to the determination that a pesticide is needed, purchasers shall consider the environmental effects of the preferred choice pesticide, and if any effective alternatives exist that are less toxic to the environment.

Definitions:

- 1) *Pesticides*: any substance or mixture of substances, including herbicides, insecticides, fungicides, etc, intended for preventing, destroying or controlling any pest.
- 2) *Integrated Pest Management (IPM)*: an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life-cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

Objective: Utilize best management practices to avoid pesticide use when feasible, and to control species that require it in the most effective and environmentally-friendly manner possible.

Strategies and Practices:

- Follow practices articulated by the King County Noxious Weeds Control Board;
- Use and practice non-pesticide methods to prevent pest problems;
- Apply pesticides only as needed, and utilize best management practices for the species that needs to be controlled, such as cutting and manually applying chemicals directly to an invasive plant;
- Select the least hazardous pesticides effective for control of targeted pests based on current best management practices;
- Minimize pesticide use where possible, especially around sensitive populations (children, infirm and elderly) and employees; and
- Avoid pesticide use in critical areas as required by Shoreline Municipal Code

20.80.085 Pesticides, herbicides and fertilizers on City-owned property.

Pesticides, herbicides and fertilizers which have been identified by State or Federal agencies as harmful to humans, wildlife, or fish, shall not be used in a City-owned riparian corridor, shoreline habitat or its buffer, wetland or its buffer, except as allowed by the Director for the following circumstances:

- A. When the Director determines that an emergency situation exists where there is a serious threat to public safety, health, or the environment and that an otherwise prohibited application must be used as a last resort.*
- B. Compost or fertilizer may be used for native plant revegetation projects in any location. (Ord. 398 § 1, 2006); and*
- When requesting products or services for pest management, clear specifications ensure selection of firms that provide an effective IPM program:
 - Request resumes of service technicians or relevant subcontractors who will be on site to service the account or supply technical support;
 - Ask for a description of experience in the design or implementation of IPM programs (including specifics about the types of equipment and products used to control pests);
 - Request a list of clients receiving IPM service from the company;
 - Ask about training provided to clients; and
 - Request a summary of all regulatory inspections and violations in the past three to five years and the company's response to any violations.

CHAPTER 5: CLEANING PRODUCTS AND SERVICES

Purpose: It is the intent of the City of Shoreline to use only cleaning products and services that are safe and, to the extent possible, reduce negative environmental, health, and social impacts. Therefore, the goal of this policy is to reduce exposure of the building occupants to contaminants that adversely impact the indoor environment by implementing environmentally preferable janitorial cleaning standards for City staff and/or in contract requirements.

Policy: All associated vendors will be asked to provide equipment, products, and supplies that meet Green Seal Environmental Standards, LEED certification standards, or similar. The City and vendor shall consider implementation of such products and equipment as they become available. Products will be reviewed for environmental and safety criteria, performance, and price.

Product reviews will consider the following (not intended to be a restrictive list of criteria):

- No cancer-causing or reproductive toxins;
- Limits on strong acids and caustics;
- Reduce or avoid use of products containing Volatile Organic Compounds (VOC);
- Avoid use of aerosol sprays and other atomizing propellants;
- Consider safety, such as effects on skin and eyes; and
- Consider environmental impacts, such as biodegradability, use of phosphates, dyes, and packaging.

Objectives: Meet the City's obligations for LEED Gold certification of the City Hall building by using cleaning products and practices that promote high indoor air quality for health of employees and to support such products in the market and endeavor to apply the same green cleaning practices to all other City buildings and facilities.

Strategies and Practices:

Training - Provide regular, comprehensive training, and materials for the proper use of chemicals, including step-by-step instructions for the proper dilution (including chemical dispensing equipment training), and disposal of chemicals and cleaning tools to prevent spills and inadvertent contact with staff and contractors.

Safety - Emergency protocol in the event of a product spill and/or chemical mix will be clearly displayed in the janitorial closets. Label all equipment used for dispensing a product, such as drums, spray bottles and containers.

Cleaning Products - The City of Shoreline requires, where appropriate to the facility being cleaned, the use of environmentally preferable janitorial cleaning products

that have been third-party certified by either Green Seal and/or Ecologo and that are bio-based products. These products can be found at:
Green Seal: www.greenseal.org and EcoLogo: <http://www.ecologo.org/en/>
A copy of the cleaning product manufacturer's MSDS for all chemicals brought onto the premise is kept in a notebook by the Facilities Manager.

When purchasing cleaning products, request information from vendors on worker safety, storage and disposal requirements, and to highlight any positive environmental attributes of their products. Ask about supplier training on the proper use of their products. When evaluating the attributes of varying products and services, marketing phrases and product claims can be confusing. The Department of Ecology offers resources that can help.

Equipment- Use better cleaning equipment, such as microfiber mops and cloths to reduce the need for cleaning chemicals; and use high efficiency vacuum cleaners to reduce dust. When possible, preference is given to use of equipment with low energy consumption and ergonomically designed to minimize vibrations, noise and user fatigue and with safe guards, e.g. rubber bumpers to reduce building damage.

Cleaning Schedule- Clean by need rather than a schedule, especially for highly polluting cleaning activities. For example, some institutions forgo scheduled floor stripping in favor of flexible timelines that allow floors to be stripped only when needed.

Quantity- Products should be purchased in form and quantity that is consistent with its intended use. Safe chemical use includes minimizing exposure, proper training and understanding chemical hazards, proper labeling and storage. Buying less helps keep our environment safe, and reduces the need to dispose of excess product when it is time to discard leftover cleaners.

Life-Cycle Analysis- Should address a cost per application rather than cost per volume. It may be more responsible and risk adverse to purchase concentrated forms of cleaners and inventory less product. This also contributes to reduction in packaging waste.

CHAPTER 6: LIFE-CYCLE ANALYSIS (LCA)

Nature operates according to a system of nutrients and metabolisms in which there is no such thing as waste—carbon, hydrogen, oxygen, nitrogen—are cycled and recycled. Waste equals food.

-William McDonough

Purpose: The City of Shoreline may not be able to emulate this level of natural efficiency, but this chapter addresses the importance of considering impacts of a products entire life-cycle in the final purchasing decision.

The costs and environmental impacts considered over the lifespan of a product or service include its:

- Raw material extraction/production (resource conservation);
- Manufacturing (local preferred, environmental-friendly methods);
- Packaging (resource conservation);
- Transport (pollution prevention);
- Energy Consumption (resource conservation);
- Maintenance (resource conservation); and
- Disposal (reusable or recyclable).

Policy: In addition to determining "lowest responsible bidder," the following supplemental criteria shall be given consideration: raw materials source, manufacturing, packaging, transport, energy consumption, maintenance, and disposal. Whenever there is reason to believe that applying the "life-cycle analysis" technique to bid evaluation would result in lowest total cost to the city, first consideration shall be given to the bid with the lowest life-cycle cost that complies with specifications.

Objectives: To identify methods for Life-Cycle Analysis that are functional for project managers to use and ensure that the City is considering environmental implications of all phases of a products life-cycle in order to choose the best value over the long-term.

Strategies & Practices:

A Life-Cycle Analysis provides a means to overcome pricing discrepancies between traditional and environmentally preferable products by encouraging the integration of environmental factors into procurement decisions. Doing so requires looking beyond initial costs. The following are examples of different LCA approaches that may be used.

Pollution Prevention - Any practice which reduces the amount of hazardous substance, pollutant, or contaminant entering the waste stream or otherwise released into the environment prior to recycling, treatment, or disposal. Pollution

prevention activities include buying products and materials that are reusable, more durable, and/or repairable.

Natural Resource Protection - Giving preference to sustainable, reusable content, and recycled materials over virgin materials, as well as to the conservation of water and energy.

Cradle-to-Grave - Assessment of manufacturing a product, from the extraction of materials and energy to the return of the materials to the earth at the product's disposal.

Cradle-to-Cradle - A framework that strives for production techniques that are waste free. In a cradle-to-cradle production, all material inputs and outputs are seen either as technical or biological nutrients. Technical nutrients can be recycled or reused with no loss of quality and biological nutrients composted or consumed. By contrast, cradle-to-grave refers to a consumer taking responsibility for the disposal of goods purchased, but not necessarily putting products' constituent components back into service.

Developing and utilizing an LCA framework means recognizing that a product or service has environmental impacts long before and after a local government purchases and uses it. The goal is to strive to purchase products and services with as few negative environmental impacts in as many life-cycle stages as possible. A product's life-cycle is generally broken down into stages.

1. Product Design.
2. Raw material extraction and processing- All industrial systems require a supply of raw material, ultimately extracted from the earth. Examples include petroleum drilling, growing and harvesting trees, mining of minerals, and livestock production.
3. Manufacturing, processing, formulation, distribution, transportation- These are the processes and sub-processes required to transform a raw material into a usable consumer product and to get it to the consumer. Often times a substantial amount of energy and emissions are generated during this process.
4. Product use and maintenance- Use of the product may result in energy consumption and/or waste discharge.
5. End-of-life management: reuse, recycling and disposal. At the end of its useful life, the product will be disposed of by the consumer. Materials entering the solid waste stream will be recycled, incinerated, or land-filled.

When preparing an RFQ/RFP for a project where an LCA of materials or products is appropriate, the following points should be considered and communicated:

- Life-cycle costing is often utilized as a method of award;
- Greater analysis is involved;
- The conditions must be stated in the solicitation document;

- Message must make clear to the bidders the basis for award;
- Solicitation must include the relevant information that will be considered in the evaluation of the offer, and requirements must be absolutely clear;
- Contracts require careful administration; and
- The result may initially be a higher acquisition price, which may be justifiable based on long-term savings.

Many LCA's involve a complex formula that would require a project manager or purchasing officer to perform a detailed analysis of imbedded costs, such as materials acquisition, transportation and packaging alternatives, and mechanisms of disposal or reuse. Because this would be time-consuming, that is not the approach recommended for Shoreline. The directive of this policy is that in the design and approach to a project, managers and others with decision-making authority on purchases generally consider the relevant environmental impacts, and attempt to make an informed decision to select the product or service with the least harmful effect on the environment, not simply the option with the lowest sticker price.

To aid in this decision-making, there are a number of resources available online to provide comparisons and other information on LCA, so project managers may refer to them without having to do the research and calculations themselves. It is the recommendation of this EPP policy to utilize these sites whenever feasible.

- BEES: Tools for Evaluating Green Building Materials:
<http://www.cooperhewitt.org/blog/2011/05/05/bees-online-tools-for-evaluating-green-building-materials>
- Green Cleaning Pollution Prevention Calculator:
<http://www.fedcenter.gov/janitor/>
- Green Seal- variety of green products and services:
<http://www.greenseal.org/>
- Responsible Purchasing Network- cleaning supply and vehicle calculators:
http://www.responsiblepurchasing.org/purchasing_guides/cleaners/
<http://www.responsiblepurchasing.org/calculator/single.php>
- Electronic Product Environmental Assessment Tool (EPEAT)- computers, notebooks, monitors, etc.:
<http://www.epeat.net/>
- EPA Energy Star- variety of green products and services:
<http://www.energystar.gov/>
- State of Washington Laws address waste reduction, management of hazardous materials and purchase of environmentally preferable products as follows:
 - RCW 70.95 Waste Reduction – preventing and reducing waste to the air, land, and water, including toxicity of waste.
 - RCW 43.19 Goals for environmentally preferable products
 - RCW 43.19A EPA recycled content standards

Sample Analysis:

Suppose that the City of Shoreline's Fleet Manager is looking to purchase a new van. His choices include one van with a purchase price of \$30,000 that gets 10 MPG and another one with a purchase price of \$40,000 that gets 20 MPG. Because the second van is a more efficient model, it is expected to have a slightly higher resale value after its 15-year service life with the City, while other variables are equivalent for the 2 vehicles.

Van A:

Purchase Price-Vehicle: \$30,000

Service Life: 200,000 miles AND 15 years

Average Vehicle Mileage: 10 MPG

Average Fuel Cost: \$4.00 per gallon

Average Annual Maintenance & Repairs: \$2,000

Estimated Residual Value after 15 years of service: \$3,000

Van B:

Purchase Price-Vehicle: \$40,000

Service Life: 200,000 miles AND 15 years

Average Vehicle Mileage: 20 MPG

Average Fuel Cost: \$4.00 per gallon

Average Annual Maintenance & Repairs: \$2,000

Estimated Residual Value after 15 years of service: \$6,000

Calculations

	Van A	Van B
Purchase Price	\$30,000	\$40,000
(+) Fuel Cost	\$80,000	\$40,000
(+) Maintenance & Repair	\$30,000	\$30,000
(-) Residual Value	\$ 3,000	\$ 6,000
(=) Total	\$143,000	\$ 116,000

According to this example, over the 15-year service life of these vehicles, the City would save \$27,000 in fuel costs and resale value, making it well-worth the \$10,000 difference in initial price. If these savings were multiplied by an entire fleet of vehicles, it becomes clear how buying the more efficient option could lead to substantial long-term savings for Shoreline.

APPENDIX A: ORIGINS OF THIS POLICY

The Shoreline Environmental Sustainability Strategy, adopted July 2008, prioritized the development of a comprehensive environmental purchasing policy for all City purchasing decisions (Recommendation #6). The strategy also recommends such purchasing guidelines include a preference or requirement for products that promote reduction and reuse, reduce consumption of raw materials, and present a reduced risk to human and ecological health (Recommendation #38).

The City's Green Team, tasked with implementing the Sustainability Strategy, took the lead on developing the City's EPP policy in collaboration with the Purchasing Officer in order to implement the above mentioned recommendations.

The Green Team was asked to:

- Develop written environmentally preferable purchasing recommendations and practices to clarify people's responsibilities under the EPP policy, including those for staff, consultants, contractors and vendors;
- Adopt a life-cycle cost formula, or other analysis method, to be used in decision-making, if an efficiently applicable formula or method could be found or developed;
- Prioritize a list of environmentally preferable purchasing goals and objectives;
- Identify environmentally preferable purchasing opportunities;
- Develop metrics for measuring progress in implementing the goals of this policy;
- Prepare educational and outreach materials to promote understanding of Shoreline's environmental purchasing principles for all of the organization's departments, contractors and vendors;
- Train the purchasing and contracting staff and all senior managers to familiarize them with their responsibilities under this environmental purchasing policy;
- Train the entire Shoreline staff to ensure everyone is aware of our desire to buy more environmentally preferable goods and services from businesses sharing our environmental commitment;
- Establish a program to recognize the efforts of individuals and departments that are the most successful at implementing the goals of this policy; and
- Prepare a regular report documenting Shoreline's efforts to select environmentally preferable goods and services.

Designees of the Green Team and Administrative Services Department completed an examination of Shoreline's purchasing practices of the following commodities based on anticipated purchasing needs and volumes, and prioritized its efforts to integrate environmental considerations into these purchases:

- Office products (recycled content, less hazardous);
- Paper (recycled content, process chlorine-free);
- Ink and toner cartridges (less toxic, remanufacture or recycled);

- Office equipment (energy efficiency, recyclable, refurbished);
- Hybrid electric or alternative fuel vehicles (more efficient);
- Pest management products and services (less hazardous);
- Cleaning products and services (biodegradable, less hazardous);
- Contract services, vendor and consultant practices (best practices);
- Vehicle maintenance products and services (less hazardous);
- Building renovation and new construction (green building);
- Furniture (refurbished, recycled content, locally sourced);
- Landscaping products and services (less toxic);
- Paint (less toxic);
- Products that do not contain persistent, bioaccumulative, toxic compounds (less toxic);
- Products that do not contain wood from endangered forests (resource conservation); and
- Renewable electricity (resource conservation).

Prioritized purchasing decisions were included as chapters in this EPP policy. Other purchasing decision categories may warrant future consideration for inclusion, but for now should follow the general goals and guidelines set out in this policy document.

The Green Team decided that the following tasks did not make sense at the time of the original EPP development and tabled them for future consideration:

- Development of metrics for measuring progress in implementing the goals of this policy;
- Establishing a program to recognize the efforts of individuals and departments that are the most successful at implementing the goals of this policy; and
- Preparing a regular report documenting Shoreline's efforts to select environmentally preferable goods and services.